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## MISCELLANY AND NOTICES.

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### CLASSIFICATION OF CAUSES OF DEATH.

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It may seem presumptuous to attempt a criticism of the Bertillon classification of deaths after the indorsement of that system by the American Public Health Association, and by the representatives of France, Austria, Italy, and many other European and South American states at the International Congress of Paris in 1900. Indeed, the necessity for a uniform schedule of the individual diseases and an accurate definition of the limits of each is so obvious that this part of the work must commend universal approval. Uniformity in the classification or grouping of these diseases is, however, not so indispensable; and, in this respect, Dr. Bertillon's scheme departs so widely from the systems at present in use in this country and in England, that there can scarcely be too thorough a discussion before undertaking it.

The systems of classification now used in English-speaking countries are modifications of the system proposed by William Farr in 1855. Dr. Bertillon stated to the International Commission last summer that this system was based on the seat of the maladies involved and not upon their nature, and claimed that his scheme was drawn on the same lines. It is difficult to see how this statement was allowed to go unchallenged. Dr. Farr's scheme, including under zymotic diseases the groups miasmatic, enthetic, dietetic and parasitic, and under constitutional diseases the diathetic, and tubercular groups, is a purely etiological one, and only of the local diseases, where the organ affected is necessarily considered, is Dr. Bertillon's statement correct.

The reasons for discarding the classification of diseases according to their nature appear to be two: that such classification is based upon theories of etiology which change with the progress of medical science, and that it leads to the use of group death rates which are misleading and valueless. The latter objection may be dismissed without argument; it will presumably be possible to discourage the use of group death rates by less radical means than confusing the returns so that they cannot be obtained. The former objection is un-

doubtedly a valid one; the only question is whether the progress of medical science is not certain to make alterations necessary in any system whatever. Apparently the International Commission considered that this was the case; as it expressly resolved, "*Qu'il est désirable que cette nomenclature soit révisée tous les dix ans.*"

Furthermore, it is among the individual diseases, exactly where comparability is most needed, that the most radical changes are likely to occur, and the modifications of the general classification must be insignificant in comparison. It is, of course, true that any system founded on a theory is imperfect and subject to change; but surely such a system is better than one founded on no rational theory whatever. A scientific classification, according to etiology, is a hard task, but I think a brief examination of Dr. Bertillon's tables will show that a scientific classification, according to the affected organ, is still more difficult.

The classes into which diseases are divided, according to the new system, are fourteen in number, as follows: general diseases, diseases of the nervous system and the sense organs, of the circulatory system, of the respiratory system, of the digestive system, of the genitourinary tract and annexa, puerperal diseases, diseases of the integumentary system, diseases of the organs of locomotion, malformation, diseases of infancy, diseases of old age, external causes and causes ill-defined. In spite of this lengthy list the incongruous collocation of diseases is the first result which strikes one on an examination of the Bertillon tables. Thus we find typhoid fever, diabetes, and gout in the first group; tetanus, cretinism, and cataracts in the second; and pneumonia, and polypi of the nasal cavity in the fourth.

With regard to tuberculosis and cancer the new system breaks down at once. Whereas each death is supposed to be classified according to the seat of the disease, all affections due to these causes are placed under the first great group of general diseases, which are defined as those which affect the entire organism, so that it is not possible or reasonable to refer them to any special part. Thus under this heading comes tuberculosis of the lungs as a general disease; pneumonia is classified as a disease of the respiratory apparatus. Cancer of the buccal cavity is a general disease; affections of the mouth form a sub-head under the diseases of the digestive tract. Dysentery and cholera nostras are general diseases; diarrhoea and

enteritis are diseases of the digestive tract. Anthrax is a general disease; carbuncle is a disease of the integumentary system. It is, perhaps, to be expected that cerebro-spinal meningitis should be classed as a disease of the nervous system; but to find peritonitis placed among the diseases of the digestive system, and puerperal septicæmia as a disease of puerperium, make one wonder just what a "general disease" may be. It is a relief to find tetanus a disease of the nervous system and not classified as an affection of the digestive tract on account of its effect on the organs of mastication.

Surely this scheme furnishes sufficient evidence of the impossibility of securing a rational classification of diseases according to the part of the body affected. The same disease may produce such a different effect with different individuals and at various periods in its course that such a system must entail endless confusion. Logically, it would require that a single case of typhoid fever be classed as a disease of the digestive tract and of the circulatory system and of the spleen at different periods in its course. Is there then no other refuge, as Dr. Bertillon implies, but the alphabetical arrangement of the causes of death? Such an alphabetical arrangement might, indeed, be preferable to a classification which does not classify. There is, however, another alternative,—the modification of the old etiological system to conform with present medical knowledge, making a system, subject to future change, indeed, but having a rational and scientific basis.

Just such a modification of the etiological system has been attempted by the registrar of vital statistics of the State of Rhode Island. In this scheme the general plan of Dr. Farr has been retained, with just such modification as will bring it into harmony with scientific facts. The titles of the five general classes,—zymotic, constitutional, local, developmental, and violent deaths,—are unchanged. Under the class, zymotic, the title of the first group is changed from miasmatic to communicable; the diseases included are much the same as in the old system with the exception of rheumatism, and with the addition of the whole of Farr's second group of enthetic diseases, syphilis, hydrophobia, glanders, and malignant pustule. The third, or dietic group, is retained for alcoholism, inanition, and purpura and scurvy; but the fourth, parasitic, group (thrush and worms) is combined with the communicable diseases.

The tubercular group under the second class of constitutional diseases is also transferred bodily to class zymotic, group communicable; thus the second class includes only the diathetic group, anæmia, cancer, and rheumatism. The changes under the last three classes, of local, developmental, and violent deaths are less sweeping. Pneumonia is transferred from diseases of the respiratory organs to the communicable group; peritonitis is dropped as being usually secondary; appendicitis, colitis, enterocolitis, dysentery, gastro-enteritis, and acute gastritis are introduced. A somewhat elaborate classification of the diseases of child-birth is given, and the group of diseases of nutrition is omitted. Finally, still-births, deaths from cause not stated, and from cause ill-defined are tabulated by themselves. This last group includes such indefinite terms as blood poisoning, coma, debility, heart failure, inflammation, septicæmia, shock, etc.

If we compare these two systems from a practical standpoint the second is surely to be preferred. Vital statistics are studied mainly with reference to the cause of disease. Any plan which groups them on an etiological basis must therefore be the most convenient one, for it enables the sanitarian, or the hygienist to see at a glance all those factors of the death rate which are subject to the same laws of causation, and which are amenable to the same preventive measures.

Theoretically, no classification can be natural or rational which is not based on descent or on affinity of cause. Every physician when he makes a diagnosis classifies the disease according to the cause, of which, or of the reaction of the organism against which, the symptoms are a manifestation. Dr. Bertillon recognized this law when he established his thirteenth class of diseases due to the external *causes*; but if he had been logical he would have omitted this group; and he would have classed death by freezing as a general disease, and dog-bites as integumentary diseases or circulatory diseases or diseases of the organs of locomotion, according to the depth of the wound. Any etiological scheme, like that of Rhode Island, will be imperfect; but it is capable of correction with the advance of medical knowledge. The defects of the Bertillon plan, on the other hand, are inherent in its false principle; and the inconsistencies noted above could be removed only by the introduction of others still more glaring.

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